UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/447,030	11/22/1999	RAINALD FORBERT	AE97/151US	3281

7590 03/16/2010

Mary E. Porter
Cabot Corporation
157 Concord Road
Billerica, MA 01821-7001

EXAMINER	
NGUYEN, NGOC YEN M	
ART UNIT	PAPER NUMBER
1793	

MAIL DATE	DELIVERY MODE
03/16/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/447,030	FORBERT ET AL.	
	Examiner	Art Unit	
	Ngoc-Yen M. Nguyen	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 December 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14-22 and 26-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-22 and 26-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 14-22, 26-28 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 19-23, 27-31, 33-34, 36 of copending Application No. 09/444,469. Although the conflicting claims are not identical, they are not patentably distinct from each other because these instant claims do not exclude the forming condensate as required in the claims of copending application '469.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 14-22, 26, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marisic (2,384,946) in view of Fernholz et al (3,939,199) and optionally further in view of Mielke et al (5,656,195).

Marisic '946 discloses a process of producing hydrogel pellets by continuously contacting within an enclosed mixing chamber such as an injector or nozzle mixer, streams of reactant solutions of such concentration and proportions that no gelation occurs within the mixer, but only at some predetermined time after leaving the mixer, and under such conditions of flow that each stream is completely and uniformly dispersed within and throughout the other at the instant of contact. The resultant colloidal solution is ejected from the mixer through an orifice or orifices of suitable size so as to form globules of the solution which are introduced into a fluid medium where the globules of the colloidal solution set to a gel before they pass out of the medium (note page 2, lines 48-64). Pellets may also be formed by a process analogous to spray drying wherein the gelable solution is sprayed into a drying tower (note page 2, left column, lines 68-72). The fluid medium can be constituted of a gas such as air (note sentence bridging the 2 columns on page 2).

Marisic '946 further disclose that the medium may contain components, which can be dissolved therefrom by the hydrosol (note page 1, left column, lines 17-18).

Marisic '946 discloses that the hydrogel can be produced from a solution of sodium silicate and hydrochloric acid (note Example III).

It would have been obvious to one skilled in the art to select any embodiment among the specifically disclosed embodiments, Merck & Co. Inc. v. Biocraft Laboratory Inc. 10 USPQ 1846.

Marisic '946 further discloses that the fluid medium is maintained at a temperature below the boiling point of said sol. After setting is complete, the hydrogen may be washed, base exchanged, heat treated or otherwise processed to obtain the desired physical and chemical characteristics in the final product (note page 2, right column, lines 14-40). The resulting gel possesses open pores free of liquid, this product is considered the same as the claimed aerogel.

Marisic does not specifically disclose the temperature of the process, however, it would have been obvious to optimize these process conditions to obtain the best results. It would also have been obvious to dry the hydrogel to obtain aerogel since aerogel is desired in the art.

For the step of converting the hydrogel to aerogel, in the event that the above heat treating step of Marisic '946 is not sufficient to convert the hydrogel to aerogel, Mielke '195 can be applied as stated below.

Mielke '195 teaches that silica aerogel particles are desired to be used in moldings (note claim 1). Mielke '195 further discloses that silica aerogel can be produced by solvent exchange, and subsequent supercritical drying a silica hydrogel.

Thus, it would have been obvious to one of ordinary skill in the art to convert the hydrogel of Marisic to aerogel because aerogel is desired to be used in moldings as suggested by Mielke '195.

The difference is Marisic 946 does not disclose that the fluid is moving substantially against the direction of gravity.

Fernholz '199 discloses that for a spray-drying process for converting a sol to a gel, in order to avoid damage of the gelled and still soft particles, they can be sprayed in upward inclined direction and collected in a liquid bath (for example water) or they can be conducted in countercurrent flow with a current of air or gas which reduces their impact velocity and simultaneously improves their resistance by drying. In this manner particles of almost any desired size can be produced (note column 2, lines 23-33).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to use a current or air or gas in countercurrent flow with the spray of silica sol in the process of Marisic '946, as suggested by Fernholz '199 because such countercurrent flow of air would prevent damaging the soft, gelled particles by reducing the silica gels impact velocity and improving their resistance by drying.

For claims 20 and 28, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have used both the water bath and the countercurrent flow of air to avoid damage of the gelled and still soft particles, because combining two or more ways as disclosed in Fernholz '199 for the same purpose has been held to be a prima facie case of obviousness, see In re Kerkhoven, 205 USPQ 1069.

Claims 14-22, 26, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0 687 199 (references are made to the translation) in view of Mielke '195.

EP '199 discloses a method of producing spherical particles made from inorganic oxides by means of a sol/gel conversion, in the case of which a sol is sprayed in such a manner from below into a reaction zone containing a reactant gas that the sol does not split open into individual sol droplets until immediately before or as it enters the reaction zone and the formed sol droplets fly through the reaction zone on a curved trajectory

while being solidified, and the presolidified sol particles are then caught in a trap. As a result of the method of operation according to the invention, the location and point in time of the sol droplet formation are advantageously coordinated with the start of the gelling (presolidification) of the sol droplets. The sol droplets, which at the point in time of their formation are still liquid sol drops of an almost ideal spherical shape and largely the same spherical diameter, when flying through the reaction zone, are fixed in their almost ideal uniformly spherical shape; that is, they are presolidified so that they are largely protected from deforming effects before, by means of additional measures of the sol/gel process which are known per se, the sol droplets which were presolidified in their spherical shape are finally solidified to be stable. For this purpose, the spraying device is arranged at a defined distance below the inlet opening into the reaction zone, the distance corresponding approximately to that distance starting from the spraying device at which the sol splits open into sol droplets. In addition, the sol is injected from the spraying device from below, that is, *against the force of gravity*, at a certain angle α into the reaction zone, the angle α in this case being formed from a horizontal axis disposed perpendicularly to the force of gravity and of the tangent of the sprayed sol in the outlet point from the spraying system (note translation paragraph bridging pages 5-6). As shown in Figure 1, the sol droplets eventually switch from an upward to a downward flow, this fairly shows that the flow is diminishes in the direction of the flow as required in the instant claim 19.

EP ‘199 further teaches that in the case of a very narrow distance of the spraying device from the inlet opening of the reaction zone containing the reactant gas, it may be

expedient, for example, when spraying nozzles or hollow needles with a small diameter are used, to blow a purge gas (such as compressed air or water vapor) through the spraying device in order to avoid a clogging of the spraying device by prematurely gelling sol (note page 7, sentence bridging pages 7-8).

When the air is used as the purge gas, the stream containing the air and sol is considered as an atmosphere containing sol. Alternatively, when the sol is sprayed into the medium contained in the reaction zone, the flow of lyosol would disturb and displace the air in the atmosphere in the reaction zone to cause a flow of air in the same direction as the flow of sol, i.e. against gravity.

Also, when air is used as the purge gas, such air is considered as the moving atmosphere (as stated in the above paragraph), and since air normally contains some humidity (i.e. water vapor), the humidity in the air is considered as the "further gaseous medium" as required in the instant claim 15. Furthermore, it would have been obvious to one of ordinary skill in the art to use a combination of air and water vapor as the purge gas in EP '199 to form an atmosphere containing air and water vapor as one further gaseous medium as required in the instant claim 15.

EP '199 discloses that the gel can be collected in a vessel filled with a fluid, e.g. with water (note page 13, lines 8-14)

Since the process of EP '199 as an upward flow (against the force of gravity), it would inherently have the classifying action (i.e. screening), note instant specification, page 7, 5th paragraph, as required in the instant 18.

EP '199 also teaches that the method according to the invention can be used for the gelling of sols in the case of which, according to the sol/gel process, an instable sol is obtained, for example, by mixing an alkaline constituent with an acid constituent. Preferably, according to this approach, particles are made from silicon dioxide or alumosilicate. Thus, for example, a sol can be obtained which contains a silicon dioxide and which can be used in the method according to the invention in that, as the alkaline constituent, an aqueous solution of an alkali metal silicate, such as a sodium silicate solution, is mixed in a manner known per se with an aqueous solution of an inorganic acid, such as an aqueous sulfuric acid solution or hydrochloric acid solution, or an organic acid, such as an aqueous formic acid solution or acetic acid solution (note EP '199, page 9, lines 6-16). Thus, EP '199 fairly teaches, with sufficient specificity, the step of forming an instable sol by mixing silicon dioxide or sodium silicate with hydrochloric acid.

EP '199 teaches that the reactant gas used in the method according to the invention can be easily held in the reaction zone as a closed receptacle above the corresponding trap. In this case, as required, fresh reactant gas can be continuously refilled by means of a separate feeding of gas into the reaction zone. In addition to the above-mentioned alkaline and acid reactant gases, when self-gelling sols are used, inert gases, such as air or nitrogen, may also be used as reactant gases (note EP '199, page 14, first full paragraph).

The difference is EP '199 does not disclose the step of converting the hydrogel into aerogel.

Mielke '195 is applied as stated above to teach the step of converting the hydrogen into aerogel so that the aerogel can be used in molding application.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marisic (2,384,946) in view of Fernholz et al (3,939,199) and Frank et al (5,7899,075).

Marisic '946 and Fernholz '199 are applied as stated in the above rejection.

The difference not yet discussed is Marisic '946 does not teach the silylating step.

Frank '075 discloses that the term aerogel encompasses xerogels and cryogels (note column 1, lines 12-24). Frank '075 further discloses that it is known in the art to convert gels into xerogels by modified the gels by silylation in such a way that the gels can be air dried without collapsing (note column 1, lines 54-61).

It would have been obvious to one of ordinary skill in the art to convert the gel of Marisic into an aerogel (i.e., xerogel) by first silylating the gel, as suggested by Frank '075 in order to dry the gel without collapsing the gel structure and because Frank teaches that aerogel is a desired product in the art.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP '199 in view Frank '075.

EP '199 is applied as stated above.

The difference is EP '199 does not disclose the silylating step.

Frank '075 is applied as stated above to teach the silylating step.

Claims 14-22, 26, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 95/06617 in view of Fernholz '199.

WO '617 discloses a hydrophobic silica aerogel obtained by reacting a water-glass solution with an acid at a pH of from about 7.5 to 11, substantially removing ionic constituents from the resulting silica hydrogel by washing with water or dilute aqueous solutions of inorganic bases, while the pH of the hydrogel is kept in the range of from about 7.5 to 11, displacing the aqueous phase contained in the hydrogel by isopropanol, and subsequently supercritically drying the resulting alcogel (note claim 1).

WO '617 further discloses that the hydrogels, which are used as starting materials for the silica aerogels can advantageously be prepared from alkali metal waterglass, especially sodium waterglass. This entails a waterglass solution, which is normally from 10 to 30, preferably 12 to 20, % by weight, being mixed homogeneously with a dilute acid, in particular a mineral acid, preferably sulfuric acid, so that the pH of the mixed product is adjusted to, as a rule, from 7.5 to 11, preferably 8 to 11, particularly preferably 8.5 to 10, very particularly preferably 8.5 to 9.5. It is particularly beneficial to use for this purpose, a mixing nozzle from which the sol is sprayed and solidifies, during the flight through the air, to hydrogel droplets (note page 2, lines 30-41). The mineral acid as disclosed in WO '617 fairly suggests other acids, such as hydrochloric, beside the exemplified sulfuric acid.

For the "at least one further gaseous medium", since atmospheric "air" normally contains at least some humidity (water vapor), the humidity in the air is considered as the claimed "at least one further gaseous medium".

For claims 20 and 28, note the reasons as stated above.

The difference is WO '617 does not disclose that the air is flowing against the direction of gravity.

Fernholz is applied as stated above to teach that in order to avoid damage to the soft, gelled particles, they can be sprayed upward inclined direction and collected in a liquid bath or they can be conducted in countercurrent flow with a current of air.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to use a current or air or gas in countercurrent flow with the spray of silica sol in the process of WO '617, as suggested by Fernholz '199 because such countercurrent flow of air would prevent damaging the soft, gelled particles by reducing the silica gels impact velocity and improving their resistance by drying.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Merz et al (3,872,217) in view of Fernholz '199 and EP 0 658 513.

Merz '217 discloses a process for forming substantially spherical, silica-containing hydrogels which comprises: feeding a dilute mineral acid to the upstream end of a continuous-flow mixing zone; adding waterglass to sodium or potassium to said dilute acid at various points distributed along the downstream path of said dilute acid, the dilute acid and the waterglass being fed to the mixing zone in such an amount that the silica hydrosol formed in the mixing zone reaches a pH of from 5 to 10; and spraying said silica hydrosol into a gaseous medium to form droplets of hydrosol which solidify to

a spherical silica hydrogel while freely falling (note claim 1). The disclosure of "mineral acid" fairly suggests hydrochloric acid.

The differences are Merz '217 does not disclose (1) the air is flowing against gravity and (2) the step of silylating the lyogel.

For (1), Fernholz is applied as stated above.

For (2), EP '513 discloses that it has been found that silica gels can be dried under subcritical conditions if they are reacted with a silylation agent prior to drying. the products obtained are referred to as "xerogels". They are outstanding heat insulation materials (note column 1, lines 35-42).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to silylating the hydrogels obtained by process of Merz '217, as suggested by EP '513, because by doing, the hydrogels can be converted to xerogels at subcritical conditions and xerogels is a desired materials in the art as heat insulation materials.

Applicant's arguments filed December 11, 2009 have been fully considered but they are not persuasive.

Applicants argue that the sol or gel of Fernholz is not silica as in Marisic.

In Fernholz '199, the method as described, i.e. spraying a thin paste of the particles in a sol through a nozzle and allowing the sol to gel in the free fall (note column 2, lines 23-25) is to produce a carrier (note "the carriers thus obtained", column 2, lines 34-35) and the carrier can be silicic acid (i.e. a form of hydrated silica) (note column 1,

lines 50-53 and Example 1c). Thus, Fernholz '199 fairly suggests that the sol used in the process described above can be silicic acid. In any event, even if the sol in Fernholz '199 is not silica, Fernholz '199 still fairly suggests to one of ordinary skill in the art that in order to avoid damage of any gelled and still soft particles (not limit to just any type of gelled, soft particles), they can be sprayed in upward inclined direction and collected in a liquid bath (for example water) or they can be conducted in countercurrent flow with a current of air or gas which reduces their impact velocity and simultaneously improves their resistance by drying (note column 2, lines 25-33).

Applicants argue that Marisic teaches that it is essential to the formation of a structurally strong pellet that the sol not be mechanically disturbed during the time of setting.

As disclosed in Marisic, an example of "mechanically disturbed" is the formation of steam which introduces gas bubbles of large size compared with the size of the pellet. Since Marisic discloses a flow against gravity (note Figure 4), the direction of flow does not appear to cause the sol to be "mechanically disturbed". Furthermore, as taught by Fernholz, the countercurrent flow of air only helps avoiding damage of the gelled and still soft particles, thus, such flow of air would not cause the sol to be "mechanically disturbed".

Applicants argue that while the colloidal solution flows upward in Marisic, the medium is stationary. Thus, there is no countercurrent flow, in which the flow of the colloidal solution goes against the flow of the medium.

For Applicants' claims requiring the atmosphere to flow against gravity, Fernholz is applied as stated above to teach such limitation, not Marisic. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). For the "countercurrent flow" argument, it should be noted that Applicants' claims only require that the atmosphere flows against gravity, but not requiring the flow of the colloidal solution to be against the flow the medium (i.e. atmosphere), the colloidal solution can flow in any direction, such as co-current, perpendicular, to the flow of the atmosphere as long as the flow of the atmosphere is against gravity.

Applicants argue that since Marisic clearly teaches that the spherical sols become damaged or can lose their shape if mechanically disturbed, one skilled in the art would avoid using any method which would disturb the sol, and this would include the countercurrent flow of Fernholz.

Again, Fernholz clearly teaches that the countercurrent flow of air would "avoid damage" of the gelled and still soft particles, thus, the countercurrent flow of air would cause the sols to be mechanically disturbed, as disclosed in Marisic, that can cause the sols to become damaged.

Applicants argue that Mielke teaches that aerogel particles are desired to be used in moldings; however, none of Applicants' claim recited a molding.

Mielke is applied to suggest to one skilled in the art to convert the gel obtained in Marisic to an aerogel so that it can be used in a molding. Applicants' claims do not exclude the step of using the aerogel to form a molding as long as an aerogel is formed in Mielke.

Applicants argue that for claim 28, there is no disclosure in Fernholz of either the formation of hydrosol from silicic acid and mineral acid or of trapping substantially globular hydrogels in a layer of water.

For the formation of hydrosol from silicic acid and mineral acid, Marisic is applied to teach this feature, not Fernholz. For the trapping the hydrogels in a layer of water, Fernholz teaches two alternative methods to avoid damaging the gelled particles, one is collecting the particles in a liquid bath and the other is using a countercurrently flow of air. Thus, it would have been obvious to one skilled in the art to combine both methods for the same purpose, In re Kerkhoven, 205 USPQ 1069.

Applicants argue that EP '199 does not disclose the step of introducing a lyosol into an atmosphere flowing in a direction substantially in opposition to the force of gravity to form a substantially globular lyogel.

As stated in the above rejection, the purge gas, when used, is considered as the claimed "atmosphere" flowing in a direction against gravity or alternatively, when the sol is sprayed into the medium contained in the reaction zone, the flow of the lyosol would disturb and displace the air in the atmosphere in the reaction zone to cause a flow of air in the same direction as the direction of the lyosol, i.e. against gravity.

Applicants' argument regarding Mielke is not persuasive for the same reasons as stated above.

The rejections over Marisic in view of Fernholz and Frank and over EP '199 in view of Frank are maintained for the same reasons as stated above.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoc-Yen M. Nguyen whose telephone number is (571) 272-1356. The examiner can normally be reached on Part time schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ngoc-Yen M. Nguyen/
Primary Examiner, Art Unit 1793

nmn
March 16, 2010